

AMENDMENTS TO THE CLAIMS:

The following listing of claims replaces all prior listings, and all prior versions, of claims in the application:

Listing of Claims:

Claims 1. - 32. (cancelled)

33. (New) A method of manufacturing a semiconductor integrated circuit device, comprising the steps of:

(a) providing a silicon wafer covered with an insulating film whose main surface is mainly formed of silicon oxide;

(b) cleaning a surface of said silicon wafer covered with the insulating film whose main surface is mainly formed of silicon oxide, by a sheet-by-sheet manner at an ordinary temperature, with use of a processing solution which contains hydrogen peroxide, hydricid fluoride salt, and water, and also contains HF and HF_2^- as the etching seeds of the silicon oxide, under conditions that said insulating film is etched but said silicon wafer is not etched, the concentration of said hydricid fluoride salt being in the range of about 0.1 to 3 mol/l;

(c) removing said insulating film after said step (b), by applying a processing solution which contains hydricid fluoride and water, thereby to expose the surface of said silicon wafer;

(d) drying said silicon wafer after said step (c); and

(e) subjecting said silicon wafer to a heat treatment after said step (d), thereby to form a gate oxide film over said silicon wafer.

34. (New) A method of manufacturing a semiconductor integrated circuit device according to claim 33, wherein the hydracid fluoride salt included in said processing solution is ammonium fluoride.

35. (New) A method of manufacturing a semiconductor integrated circuit device according to claim 33, wherein the hydracid fluoride salt included in said processing solution is tetraalkyl ammonium fluoride.

36. (New) A method of manufacturing a semiconductor integrated circuit device according to claim 33, wherein said processing solution further includes a surfactant.

37. (New) A method of manufacturing a semiconductor integrated circuit device according to claim 33, wherein, during the step of cleaning the surface of said silicon wafer, said processing solution is ultrasonically vibrated.

38. (New) A method of manufacturing a semiconductor integrated circuit device according to claim 33, wherein the heat treatment in said step (e) is performed after said step (d) without contacting said silicon wafer with the air.

39. (New) A method of manufacturing a semiconductor integrated circuit device according to claim 33, wherein the processing solution has a temperature of 40°C or less during the processing.

40. (New) A method of manufacturing a semiconductor integrated circuit device according to claim 33, wherein said processing solution has a pH of 6 to 11.

41. (New) A method of manufacturing a semiconductor integrated circuit device according to claim 33, wherein the heat treatment in said step (e) is performed in a mixed atmosphere which contains moisture and oxygen at a temperature of 800 to 900°C.

42. (New) A method of manufacturing a semiconductor integrated circuit device according to claim 33, wherein said silicon wafer is transferred to a chamber immediately after said step (d) to perform the heat treatment in said step (e), thereby to form said gate oxide film.